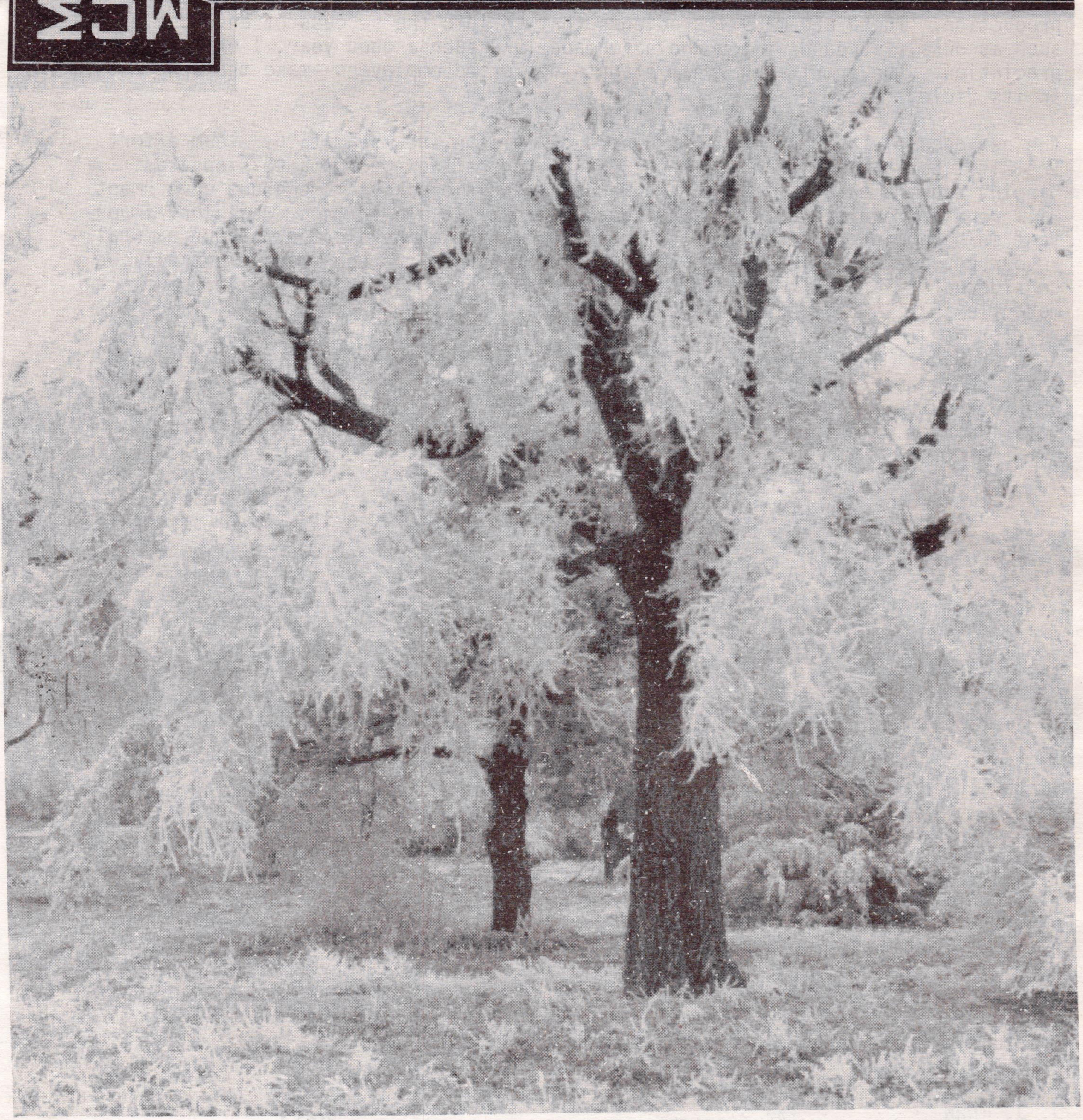
Topographically Speaking



NOVEMBER-DECEMBER 1979

GEOLOGICAL SURVEY, TOPOGRAPHIC DIVISION
1400 Independence Road, Rolla, Missouri 65401

Vol. 2
No. 2

For Mid-Continent Mapping Center, 1979 has been another year of transition--from standard procedures producing standard maps to new techniques using automated cartography. Contract mapping has become a major part of MCMC's program. Personnel ceilings have continued to decline. Yet, 1979 has been another year of excellent production. There are many ingredients that go into the success of an organization such as ours. To each of you who have made 1979 such a good year, I extend my appreciation. The spirit--the team effort--dedicated employees--make the Center tops in its field.

The new decade--the 1980's--will require new vision, new spirit, new team effort. The Civil Service Reform Act directs development of new performance standards. Mapping requirements will be more demanding--decisionmakers throughout government will require more map data and more accurate data to aid in those decisions important in balancing preservation of the environment with development of our natural resources. Mapmakers will need to be better trained, for good management will be considered as important as advancing technology, and organizations will need to be more flexible. The 1980's will challenge us.

As we pause at Christmas, our thoughts are of fellow workers, friends, and loved ones. For those of you whom we do not see from day to day--especially our field people and our retirees--a special greeting. Distance does not diminish our close relationships. To the Survey family,

A MERRY CHRISTMAS

AND

A HAPPY NEW YEAR

L. H. Longuding

EDITORIAL STAFF

R. D. Yenzer . . . . . Editor
J. C. Earl . . . .Associate Editor
H. C. Meaux. . .Plans & Production
P. D. Lampert. . . . . Cartography
H. P. Wallis . . . .Photogrammetry
L. C. Bennett. . . . Field Surveys
L. L. Jontz. . . . . .Sports
B. S. Gardner. . . . . .Typist
W. B. McComb
C. J. Forbes . . . . Photographers
J. J. Wynn
J. C. Earl . . . . . .Illustrators

****

COVER PHOTO: Winter in Kansas. Photo by Bob Yenzer.

****

FROM THE EDITOR'S DESK

The past and current staff of "Topographically Speaking" would like to thank all of you for your support and contributions to our MCMC newsletter over the past year. Our best wishes are extended to you for the Christmas holiday and we hope the new year brings you reward and happiness.

SAFETY NEWS

IT CAN BLOW UP IN YOUR FACE

Some people who for years have handled gasoline casually find it hard to believe that the fuel blows up in the faces of so many others. The explanation lies in the fact that certain conditions must be right for gas to explode, notably the mixture of gas and air. If the mixture is too lean or too rich, no explosion. So if you've mishandled gasoline and gotten away with it, it's only luck that saved you.

Keeping "just a gallon" in the trunk (or using "just a cup" to clean a paint brush) is not the answer. If your car gets 15 miles per gallon, one tablespoonful of gasoline will move it the length of a football field. Imagine that power exploding in your face! Less than a gallon, fully vaporized, is enough to take the roof off a house.

Gasoline vapor is heavier than air, so it tends to settle to the floor, where air currents can move it towards an ignition source 100 feet away. The vapor can form a trail directly back to you.

Ingnition sources are everywhere. Water heater pilot lights appear to be the most common source in the home, but the small spark caused by flipping an electrical switch has done people in, too. Even tools in the trunk of a car bumping a gas can can create a spark.

****

The society which scorns excellence in plumbing because plumbing is a humble activity and tolerates shoddiness in philosophy because it is an exalted activity will have neither good plumbing nor good philosophy. Neither its pipes nor its theories will hold water.

****

HOT SPRINGS WATER IN ARKANSAS COMES FROM ANCIENT PRECIPITATION

The thermal water emerging at Hot Springs National Park in Arkansas comes from local precipitation, with most of it having fallen as rain or snow more than 4,000 years ago and then draining slowly underground, according to a report by the U.S. Geological Survey, Department of the Interior.

USGS scientists who conducted the study also conclude that the temperature of the water emerging from the ground, about 144 degrees Fahrenheit, is only a few degrees cooler than the highest temperature reached underground. The hot water rises from a depth of more than 4,500 feet below the land surface.

****

THE EARLY DEVELOPMENT OF PHOTOGRAMMETRY IN EUROPE

by Sam Wallis

Photogrammetry is the science or art of obtaining reliable measurements by means of photography. This science was developed concurrently both in Europe and the Western Hemisphere. This article will cover the early development of photogrammetry in Europe.

The first practical photographs were produced in 1839. By 1840 a French geodesist, Dominique Arago, realized the potential for using photographs to measure distances on the Earth's surface. He appeared before the Chamber of Deputies in Paris and advocated the use of photography by topographers.

In 1858 the first aerial photographs to be used for the purpose of mapping were taken from a camera held aloft by a string of kites. This pioneer experiment in aerial photography was the work of Aimé Laussedat, an officer in the Engineer Corps of the French army. Because of the many years Col. Laussedat devoted to proving that photography could be used

Continued on page 4

Continued from page 3
successfully in the production of topographic maps he is known as the "Father of Photogrammetry."

Laussedat made a few maps from photos that were taken from a balloon. He abandoned balloon and kite photography in 1860 because of the difficulty of taking enough photos from one air station to cover all the necessary area. Therefore, most of Laussedat's work was with ground photography by use of a phototheodolite, a combination theodolite and camera.

At first Laussedat's ideas were ridiculed by many of his contemporaries, but he continued his work and laid down photogrammetric principles which are still in use now, over 100 years later.

About 1900, Capt. Theodor Scheimpflug of the Austrian army developed an eight-lens camera that he attached to the basket of a balloon. The one vertical and seven oblique photos taken from this camera were printed into a single composite equivalent to a simple vertical photograph, thus providing complete coverage of the visible area.

When dirigible balloons were developed, Scheimpflug quickly saw the advantage. He was not able to control the balloon position instead of simply photographing areas at the whim of the wind. In 1914 a Zeppelin captured in France was carrying an aerial camera.

Stereophotogrammetry came into use around the turn of the century after F. Stolze discovered the principle of the floating mark in 1892. Today nearly all photogrammetric mapping is done with stereo instruments that use some type of floating mark.

Pioneer work in photogrammetry was by no means confined to Europe. Watch for your next issue of "Topographically Speaking" which will carry an article on the early development of photogrammetry in the Western Hemisphere.

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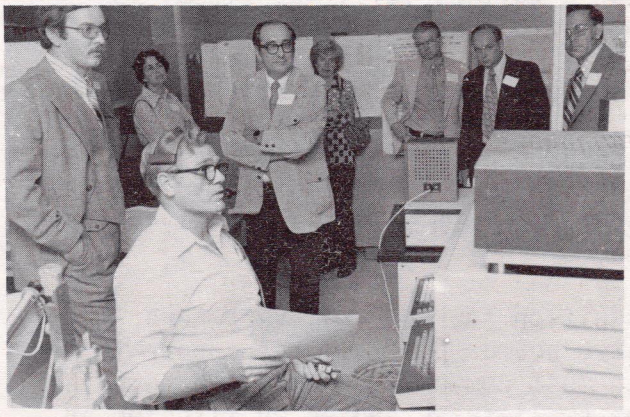
DMA OFFICIAL VISITS MCMC

by Marty Moreland

On November 16, Mr. Larry Ayers, Deputy Director for Programs, Production and Operations, Defense Mapping Agency, Washington, D.C., visited the Mid-Continent Mapping Center. In the afternoon Mr. Ayers was joined by Mr. Bill Chamberland, Chairman, ACSM-Kansas City Chapter, and twelve members and guests from the DMA Regional Office, Kansas City, Missouri. Our guests were greeted by Mr. Larry Borgerding and after a brief round-table discussion, they were divided into two groups and given a tour of our facilities with Al Niles and Marty Moreland as guides. After the tours were completed, a social hour was held at Bruno's. Following the meal, everyone returned to the main conference room at the USGS for a joint meeting of ACSM and ASP. Mr. Ayers addressed the group of some fifty to sixty people on the future progress and developments of DMA in the digital application and analysis program. Refreshments were served following the meeting.



Don Stukey demonstrating the VDES

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THE LUDINGTON SURVEY SALMON DERBY

by Lynda Bennett

Fishing fever is running high among Survey field families on the Lundington, Michigan, project this fall.

The annual spawning migration of the salmon from Lake Michigan into the Pere Marquette River here has brought about a crash course in how to go after the

big fish with scant know-how gleaned from watching the natives, and undersized tackle which up to now has seldom felt the tug of more than a four or five pound walleye--on a good day.

With a fortune in Little Cleo lures, (the sure-fire bait for the big Chinooks and Coho), husbands, wives and kids have together netted a grand total of 529 pounds of salmon to date, and still catching.

The quarry has been frozen, canned, and smoked, and eaten baked, grilled, fried, broiled, boiled, and disguised in any number of concoctions in the cooks' efforts to tempt a diminishing appetite for the delicacy. While some confess to being tired of eating it, none have given up the sport of catching it!

Leon Tackett is currently claiming the record for the largest Chinook, weighing 31 pounds, with his seven fish total catch weighing in at 134 pounds. Wife, Malese, and son, Jeff, have contributed four more, for a family total of 203 pounds.

The David Burgeson fishing team including wife, Shirley, and teenagers, Sam and Leshia, have bagged 13 salmon weighing in at 223 pounds. Shirley's seven-fish catch totaling 124 pounds, the largest being 28 pounds, is keeping Tackett on his toes for the record total weight.

Dave and Lynda Bennett are out of the running for any records so far with their 80-pound total for landing four Chinook, David being quick to point out that three were his.

Bob Rinehart, a new Survey fieldman, arrived in the midst of the action here, but quickly strung his reel with 12 pound test line, purchased the prescribed Cleo's, and hooked himself a 23 pound keeper. Wife, Mary, is still a holdout, but is getting lots of encouragement, definitely suffering from fishing fever, and will surely be soon among the victorious in the Ludington Survey Salmon Derby.

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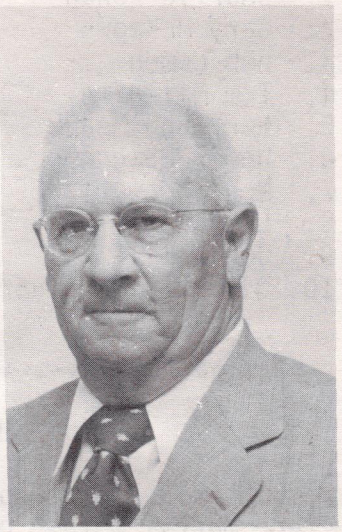
AUSTIN RETIRES



Jack S. Austin, Branch of Field Surveys, retired on October 20, 1979, after completing over 34 years and 5 months of Federal service.

Mr. Austin began his Federal career with the U.S. Transportation Corps in 1944, following his graduation with a bachelor's degree in Mechanical Engineering from Kansas State College. His service with the U. S. Geological Survey began in 1946 with an appointment in the Branch of Field Surveys. He has served continuously in the Branch of Field Surveys since that time, except for one year spent in rotational training in the various production branches. In 1963 he was promoted to Project Engineer (now Projects Chief), the position from which he is retiring.

****

NICKNAMES *by Phil Lampert*

Some nicknames are complimentary, some are descriptive and others may be less than complimentary, how many of the following people can you identify by these nicknames.

1. Dr. IQ--and a linguist too!
2. Artie Spring--he's doing his thing.
3. Lemon Juice--and as big as a moose.
4. Tom Terrific--and quite prolific!
5. Mohican--and also a cajun.
6. Boomer--but not a sooner.
7. The International Playboy--"a femme fatale is just a toy."
8. Big Red--a 300 game is ahead?
9. Jock Strap Joe--Bowling, golf, ping pong, he's a pro.
10. The Shrink--"Feel a void, see Freud."

answers on page 6

****

ANSWERS TO NICKNAMES

1. Charlie Konop
2. Gary McKeown
3. Bob Lemen
4. Tom Miller
5. Harrison Meaux
6. Homer Briggemen
7. Neal Schwartz
8. Don Chaney
9. Joe Wallis
10. Gilbert Schreiner

****

IN MEMORIAM

Ozie Harris, mother of A. C. Harris.
Irene Murry, mother of Pauline Wilkinson.
Mrs. Emma Borgerding, mother of Larry Borgerding

****

THANK YOU

A belated thanks for the plumb-bob and scroll. Both are much appreciated.

As many of you know that although I am not a horticulturist, I do enjoy the sheer pleasure of working with living things such as plants. I am contemplating using the gift check I received from you on the purchase of a bakers stand for my many plants.

Thanks again for everything-especially your fellowship during the last sixteen years. I do miss it although, I am truly enjoying my retirement.

Dorothy C. Schwab

****

AWARDS

30-Year Service

Charles H. Croom
Betty B. Sands

20 Year Service Awards

Lawrence P. Brune
John W. Cole
Brenda L. Lyon
Harrison C. Meaux, Jr.
Ronald G. Wood
William A. Young

10 Year Service Award

Linda J. Copeland

****

SPECIAL SERVICE AWARDS

Kenneth A. Salts
William H. Schaub
George G. Cannell
William B. Heimberger
Jack Gentry
Charles A. Scott
Wilbur C. Batson
David G. Brandt, Jr.
Robert H. Leonard

****

SUGGESTIONS

Albert H. Haas (P) GS-79-19M, concerning an electronic reversal switch for "X" signal of F-2, ETP-1 plotter.

****

OTHER PERSONNEL ACTIONS

Joseph E. Kallbrier, FS, Geodetic Section, GS-13, temporary promotion, WMC
Doyle G. Frederick, Associate Chief, Topographic Division, Reston, Virginia
Alfred L. Ploetz, FS, FSIS, GS-12, temporary promotion, WMC

****

RETIREMENTS IN OTHER CENTERS

Zebedee S. Sloan, EMC, 09-27-79
John W. Simmons, E-NCIC, 12-15-79
William T. Thomas, SMC, 11-14-79
William C. Elder, EMC, 01-12-80

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MAPS PUBLISHED FOR SEPTEMBER 1979

NEW MAPS

ALABAMA
Butler (Butler SW)
Gin Creek (Samantha NW)
Jachin (Butler NW)
Lake Lurleen (Samantha SW)
Lake Tuscaloosa North (Samantha NE)
Lake Tuscaloosa South (Samantha SE)

IOWA
Alta (Aurelia NE)
Clare (Gilmore City SE)
Corley (Harlan SE)
Fonda (Fonda SE)
Fonda NE
Gilmore City (Gilmore City NW)
Gilmore City SW
Humboldt (Ft. Dodge NW)
Lakeside (Storm Lake SW)
Manson (Manson SE)
Newell East (Fonda SW)
Newell West (Storm Lake SE)
Palmer (Manson NE)
Pocahontas (Manson NW)
Pomeroy (Manson SW)
Schaller North (Aurelia SE)
Storm Lake (Storm Lake NW)
Storm Lake NE
Thor (Ft. Dodge NE)
Unique (Gilmore City NE)
Varina (Fonda NW)
Vincent (Ft. Dodge SE)

KANSAS
Calvert (Norton SE)
Clayton SW (Kanona 4SW
Reager (Norcatur SE)
St. Francis SW

COLORADO-KANSAS
Midway SE (RMMC) (Vilas 4SE)

KANSAS-COLORADO
SAUNDERS (RMMC) (Vilas 1NE)

MICHIGAN
Freeport (Lowell SE)

NEBRASKA
Harrison East (RMMC)
(Harrison 3NE)

NORTH DAKOTA
Arnegard (Arnegard 2SW)
Baldwin (Regan SW)
Bands (Ray 4SW)
Bowdon SE
Camp Creek East (Alexander 1NE)
Camp Creek West (Alexander 1NW)
Canfield Lake (Wing NW)
Chaseley (Hurdsfield NE)
Chris Creek (Ray 3SE)
Demicks Lake (Arnegard 1NE)
Epping (Ray 2SE)
Epping NW (Ray 2NW)
Gamache Creek (Ray 3NE)
Goodrich East (Goodrich NE)
Goodrich West (Goodrich NW)

NORTH DAKOTA (cont.)
Grass Lake (Regan NW)
Hawks Nest (Sykeston SE)
Hurdsfield (Hurdsfield NW)
Lake Helen (Langedahl NE)
Lake Jessie (Ray 3SW)
Mertz Slough (Sheyenne Lake SW)
Pony Gulch (Sheyenne Lake SE)
Pursian Lake (Steele 3NW)
Ray (Ray 1SW)
Ray NW (Ray 1NW)
Ray SE (Ray 1SE)
Schafer (Arnegard 1SW)
Schafer SE (Arnegard 1SE)
Senior Lake (Hurdsfield SW)
Spring Brook (Ray 2SW)
Stockyard Creek (Ray 3NW)
Sykeston SW
Taylor Butte (Leff 4NE)
Temple (Ray 1NE)
Timber Prong Creek (Arnegard 1NW)
Tioga (White Earth 2NW)
Tioga SW (White Earth 2SW)
Tobacco Garden Bay (Ray 4SE)
Wagon Wheel Hill (Bowdon SW)
Watford City NE (Arnegard 2NE)
Watford City NW (Arnegard 2NW)
Williston SE (Williston 4SE)
Williston SW (Williston 4SW)
Willow Lake (Hurdsfield SE)
Wing (Wing NE)
Woodhouse Lake (Goodrich SE)

OKLAHOMA
North Village (Drumright NW)
Pretty Hair Creek (Bedford SW)

SOUTH DAKOTA
Bald Hills (McCamley 1NE)
Gettysburg Muni Airport (McCamley 2NW)
Gettysburg Muni Airport SE (McCamley 2SE)
Gettysburg Muni Airport SW (McCamley 2SW)
J. K. Butte (RMMC) (Harding NW)
Lowry NW (Lebanon 2NW)
Redig NE (RMMC)
Roscoe (Faulkton 2NE)

WISCONSIN
Alexander Lake (Hamburg NE)
Amery (Balsam Lake SE)
Balsam Lake (Balsam Lake NW)
Barron (Barron NE)
Brussels (Casco NE)
Casco (Casco SE)
Chetek (Chetek SW)
Clarks Mills (Reedsville SE)
Clayton (Turtle Lake SW)
Dallas (Barron SE)
Denmark (Denmark SE)
Dority Creek (Barron SW)
Dyckesville (New Franken NE)
Fromm Lookout Tower (Hamburg NW)
Grandfather Falls (Spirit Falls SE)
Hamburg (Hamburg SW)
Kewaunee (Kewaunee NE)
Larrabee (Kewaunee SW)
Little Chicago (Hamburg SE)
Luxemburg (Casco SW)

WISCONSIN
Mishicot (Manitowoc NW)
Moose Ear Lake (Chetek SE)
Morrison (Denmark SW)
Namur (Casco NW)
Natzke Camp (Spirit Falls SW)
New Franken (New Franken SE)
Poland (Denmark NE)
Poskin (Barron NW)
Range (Balsam Lake NE)
Reedsville (Reedsville NW)
Stangelville (Kewaunee NW)
Strickland (Chetek NE)
Two Creeks (Kewaunee SE)
Two Rivers (Manitowoc NE)
Valders (Reedsville SW)
Wapogasset Lake (Balsam Lake SW)
Whitelaw (Reedsville NE)

ORTHOPHOTOQUADS

MICHIGAN
Big Rapids NE
Big Rapids NW
Big Rapids SE
Big Rapids SW
Evart SW
Howard City NE
Howard City NW

MINNESOTA
Brimson NW
Brimson SW
Markham NE
Markham NW
Markham SE
Markham SW

MINNESOTA-CANADA
Basswood Lake NW
Basswood Lake SE
Basswood Lake SW
Ensign Lake SE
Ensign Lake SW

NEBRASKA
Bloomfield
Center East
Center West
Howe Creek
Lindy
Sparta

SOUTH DAKOTA-NEBRASKA
Springfield

REVISED MAPS (limited revision)

LOUISIANA
Afeman (Leander SE)
Fullerton Lake
LaCamp

PHOTOREVISIONS

ARKANSAS
Hope (SMC)
Van Buren (SMC)

ARKANSAS-LOUISIANA
Taylor (SMC)

ARKANSAS-OKLAHOMA
Hackett

ILLINOIS
Eureka
Mackinaw
Marquette Heights
Morton
Peoria East
Peoria West
Princeton North
Princeton South
South Pekin
Washington

ILLINOIS-MISSOURI
Ware (SMC)

KANSAS
Alton
Assaria
Big Bow NW
Brookville
Culver
Deerfield NE
Deerfield SE
El Dorado
Everest
Falun
Garden City 3NE
Garden City 3NW
Garden City 3SW
Glasco
Glasco NE
Glasco SW
Glenn Elder South
Gypsum
Hickok NE
Howard (SMC)
Hutchinson
Hutchinson NW
Jarbalo
Johnson East
Kansas Falls
Keats
Kipp
Lakin SE
Milford
Ogden
Olsburg SW
Oskaloosa
Patterson
Salina SW
Smolan
Trenton
Ulysses
Ulysses SW
Yaggy

MICHIGAN
Lambertville West
North Adams

MICHIGAN-OHIO
Erie

MISSISSIPPI
Bissell
Evergreen
Fulton
Southeast Pontotoc
Troy

MISSOURI
Chaffee (SMC)
Clifton Hill
College Mound
Dongola (SMC)
Harviell (SMC)
Jackson (SMC)
Otterville East
Poplar Bluff (SMC
Prairie Hill
Renick (SMC)
Richmond

MISSOURI-ILLINOIS
Crosstown (SMC)

NEBRASKA
Arcadia West (SMC)
Loup City NW (SMC)
Mason City SW (SMC)
Taylor NW (SMC)

NORTH DAKOTA
Medina (SMC)

OKLAHOMA
Adamson
Aydelotte (SMC)
Biocker
Crowder
Dougherty (SMC)
Hartshorne
Kaw City (SMC)
Kiowa
Lake Carl Blackwell (SMC)
McAlester
Pawhuska (SMC)
Pittsburg
Ponca City (SMC)
Savanna
Stillwater SW (SMC)
Stonewall (SMC)

SOUTH DAKOTA
Badnation
Badnation NW
Black Horse NE
Cuny Table East
Onaka
Sheep Mountain Table
Willow Creek NE
Willow Creek NW

CHECK MAP DESIRED:

Name _____

BRANCH/MAIL STOP _____

Maps published during September are listed below. An employee who actually worked on any of the maps listed may obtain a complimentary copy by signing and submitting this sheet with quadrangle(s) checked, to NCIC by January 21, 1979.